

The EM Spectrum Chart

1. Which wavelength is in the infrared range of the electromagnetic spectrum?
 - 1) 100 nm
 - 2) 100 mm
 - 3) 100 m
 - 4) 100 μm
2. Electromagnetic radiation having a wavelength of 1.3×10^{-7} meter would be classified as
 - 1) infrared
 - 2) orange
 - 3) blue
 - 4) ultraviolet
3. Compared to wavelengths of visible light, the wavelengths of ultraviolet light are
 - 1) shorter
 - 2) longer
 - 3) the same
4. In a vacuum, a monochromatic beam of light has a frequency of 6.3×10^{14} hertz. What color is the light?
 - 1) red
 - 2) yellow
 - 3) green
 - 4) blue
5. In a vacuum, the wavelength of green light is 5×10^{-7} meter. What is its frequency?
 - 1) 2×10^{-15} Hz
 - 2) 2×10^{-14} Hz
 - 3) 6×10^{14} Hz
 - 4) 6×10^{15} Hz
6. Which is not in the electromagnetic spectrum?
 - 1) light waves
 - 2) radio waves
 - 3) sound waves
 - 4) x-rays
7. Which electromagnetic wave has the shortest wavelength?
 - 1) x-ray
 - 2) heat
 - 3) light
 - 4) ultraviolet
8. To which part of the electromagnetic spectrum will a photon belong if its wavelength in a vacuum is 5.6×10^{-7} meters?
 - 1) x-ray
 - 2) ultraviolet
 - 3) visible light
 - 4) infrared
9. The color of visible light is determined by its
 - 1) frequency
 - 2) amplitude
 - 3) intensity
 - 4) speed
10. Which pair of terms best describes light waves traveling from the Sun to Earth?
 - 1) electromagnetic and transverse
 - 2) electromagnetic and longitudinal
 - 3) mechanical and transverse
 - 4) mechanical and longitudinal

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11. Radio waves diffract around buildings more than light waves do because, compared to light waves, radio waves

- 1) move faster
- 2) move slower
- 3) have a higher frequency
- 4) have a longer wavelength

12. Which color of light has the greatest period?

- 1) violet
- 2) green
- 3) orange
- 4) red

13. Increasing the amplitude of an electromagnetic radiation increases its

- 1) frequency
 - 2) speed
 - 3) intensity
 - 4) period
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Answer Key

1. 4

2. 4

3. 1

4. 4

5. 3

6. 3

7. 1

8. 3

9. 1

10. 1

11. 4

12. 4

13. 3